3: Anonymous U-4 (no date) 1920 RH1 Caucasia RH1

133 Sea of Azov, is navigable by light-draught steamers for
505 141 miles from its mouth. On the river and the various tributaries forming its basin there are 964 miles of water suitable for floating timber. The *Terek*, which flows into the Caspian, is navigable by light vessels for 112 miles from its mouth, but there is no steamer traffic. Timber can be floated for 320 miles. It has no tributaries of importance.

In Transcaucasia the navigable rivers are the Chorokh and Rion, emptying into the Black Sea, and the Kura, emptying into the Caspian. The *Rion* is navigable for 83 miles from its mouth at Poti, but no steamers can be used. Timber is floated or rafted for 123 miles. The *Kura* is navigable for 390 miles from its mouth, and of this distance 197 miles are suitable for steamers. Including its tributaries, the basin of the Kura provides 1,098 miles of water upon which timber-floating is possible.

[656] All these navigable waters were under the care of the State, which, through the Ministry of Ways and Communications, was responsible for their maintenance and improvement.

There are no navigable canals in the Caucasus. For irrigation canals, see p. 59.

(c) *Railways*

• 496 In 1912 there were 2,442 miles of railway in the Caucasus. 994 miles being in Ciscaucasia and 1,448 miles in Transcaucasia. These are generally of 5-ft. gauge, and, with certain exceptions indicated below, are of single track.

Principal Railways.—There are two principal railway systems—the Vladikavkaz and the Transcaucasian.

[471] Both were constructed and maintained originally by private companies, but the latter was acquired by the State in 1906.

(i) The main line of the *Vladikavkaz Railway*, 819 miles in length, runs from Rostov-on-Don (where con-

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nexion is made with all parts of Russia) to Baku, *via* Tikhoretskaya, Kavkazkaya, Armavir, Mineralniyavodi, Beslan, Grozni, Petrovsk, and Derbent. From Tikhoretskaya to Mineralniyavodi the track is double.

There are four principal branches: one runs from Tikhoretskaya to Tsaritsin on the Volga, 333 miles; another from Tikhoretskaya to Ekaterinodar, and thence as a double line to Novorossiisk, 170 miles in all; a third from Kavkazkaya to Ekaterinodar, 85 miles; and a fourth from Kavkazkaya to Stavropol, 93 miles. There are also short branches from Mineralniyavodi to Kislovodsk and other watering-places, from Kotlyarevskaya to Nalchik, and from Beslan to Vladikavkaz.

The Vladikavkaz Railway is considered to be one of the most profitable and best-managed private lines in Russia. The company's original concession expired in 1911, but was renewed for fifteen years, and thereupon various improvements and plans for new branches and terminal facilities were undertaken.

The receipts in 1912 amounted to £5,845,100, and the expenses to £3,137,400, leaving a net profit of £2,707,700, less the sum of £348,400, which the State received in accordance with the rate fixed in the company's statutes. In 1910, the latest year for which such figures are available, the railway carried about 8,000,000 tons of goods.

(ii) The *Transcaucasian Railway* runs from Batum to Baku, a distance of 563 miles, *via* Samtredi, Rion, Sharopan, Michailovo, Tiflis, and Elisavetopol. From Akstafa to Elisavetopol and from Adji-Kabul to Baku the track is double. The railway also owns an 8-in. pipe line from Baku to Batum, which is capable of delivering 1,600,000 tons of oil per annum.

There are six principal branches: from Samtredi to Poti (41 miles); from Rion, *via* Kutais, to Tkvibuli (33 miles), serving the coal-mines at the latter place; from Sharopan to Sachkeri (narrow gauge, 33 miles), serving the Chiaturi manganese mines; from Michailovo, *via* Borzhom, to Bakuriani; from Tiflis, *via* Alexandropol and Kars, to Sarykamish (226 miles), with

a branch from Alexandropol to Julfa on the Persian border (206 miles), and thence to Tabriz; and from Baku to Sabunchi (double track, 12 miles), with a single-track branch (3 miles) to the Surachani oil-field.

The receipts of the Transcaucasian Railway in 1911, the latest year for which figures are available, were £1,983,455, and the expenses £1,293,485. In 1910 the railway carried 6,000,000 tons of goods. The working of the railway was said to give cause for dissatisfaction in many respects. High freights, deficient rolling-stock, and undue delays were complained of by traders; but though the management made promises of amendment, these had not been fulfilled when war broke out.

(iii) An independent company, the *Armavir–Tuapse Railway Company*, was the owner of the line, 166 miles long, which runs from Armavir through the Maikop oil-fields to the port of Tuapse. This line was provisionally opened for traffic in 1914 and completed in 1916. No figures as to its working are yet available. Proposed extensions are referred to below.

Railways under construction.—Eight short lines in the north-western districts of Ciscaucasia were surveyed or under construction in 1914. Their object was to serve agricultural interests in this area. A line along the valley of the Terek to serve Mozdok and shorten the main line to Baku was also being built.

In Transcaucasia the principal lines under construction were extensions into Turkish Armenia, at the time of the invasion of that province by the Russians in 1915–16. A line from Tiflis to Telav, 116 miles long, under construction by an independent company, financed by Georgian landowners, was almost finished in 1914. It was intended to tap a wine-growing district.

Projected Railways.—Extensive additions to the Caucasian railway systems had been planned and in some cases surveyed, and money had been raised for their construction when war broke out.

The most important was the Black Sea coast line

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watered by the streams falling south and west from the Central Caucasus and Daghestan; but the annual rainfall is low in comparison to that of the Mingrelian Plain, and at Baku registers an average of only 13 inches. The destructive measures of invaders and subsequent desiccation have further contributed to the aridity of the eastern region, and the grassy plains which once supported thousands of Mongol ponies have now degenerated in many parts into desert land. But as it is less fertile, so the Kur Valley is more healthy than that of the Rion. The atmosphere is dry, and if the summers are as hot they are not as humid as those of Mingrelia. In the winter extremes of cold are experienced, and snow lies in many parts of the Kur Valley. The third, or south-eastern, area, including Russian Armenia and Kara Bagh, suffers the violent contrasts of heat and cold of the Armenian Plateau. At Erivan and Alexandropol snow lies until April, while the short summers scorch all vegetation. The Araxes Valley suffers in a lesser degree from the same conditions.

Communications.—The chief commercial route in Transcaucasia is the Transcaucasian Railway. The main line runs north from Batum along the Black Sea coast to Nikolaevsk, whence it turns inland, crosses the Rion and at Samtredi joins a line coming from Poti. Thence it runs east-south-east to Gori and Tiflis, traversing the Suram by a tunnel. It follows the course of the Kur until it crosses the Poili bridge, and then runs south-east by Elisavetpol to Alyat on the Caspian Sea, where it turns north to Baku. The total length is 563 miles. The Railway Company further owns a pipe-line following the same route, which is capable of conveying 1,600,000 tons of oil per annum from Baku to Batum. From Tiflis another line runs south by Karakilissa to Alexandropol, whence it branches west to Kars and south-east to Erivan and Julfa. During the war, the Russians continued the Kars line to Sarikamish, whence a light railway connected it with Erzerum. Another light railway connects Julfa with Tabriz. Branch lines also connect the Transcaucasian line with Kutais and the Tkhvibuli coal-fields, with the Chiaturi manganese area, and with the popular health-resort at Borjom.

Until the collapse of Shamil Transcaucasia was almost without land communication with the North Caucasus, except by the Daryal Pass. The principal commercial communications between Transcaucasia and Russia still continue to be marine, on the Black Sea from Poti and Batum to the South Russian ports, on the Caspian from Baku to Astrakhan.

[see cat 116, p 201 ff; the date is 1854—Analyst]

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491 The Russians have been careful however to develop communications over the Caucasus of extreme military and political importance. A railway from Baku follows the historical passage-way by Derbend and connects with the Vladikavkaz-Rostov line and the main Russian system by Petrovsk, Grozni and Beslan. There is no other railway communication with Transcaucasia, but Russian strategic control has been ensured by four military roads. The main artery, the Georgian Military Road, 382 miles in length, leads from Mozdok via Vladikavkaz and the Daryal to Dushet, Tiflis and Erivan. On the west the Ossetian Military Road runs from Ardon, 20 miles north-west of Vladikavkaz, across the main range of the Caucasus by the Mamison Pass, and reaches Kutais by Oni. Along the formerly impassable Black Sea coast a metalled road now runs from Anapa via Novo-Rossiisk and Sochi to Sukhum and Kutais. On the east a metalled road from Petrovsk traverses Daghestan by Temir Khan Shura and the Vantliashet Pass and leads by Telav to Tiflis. The existence of these four roads is of supreme political importance. The Caucasus is no longer an insuperable military barrier, and the construction of the Black Sea and Ossetian roads has opened two new routes of invasion into Georgia. Other important roads are the lateral road west to east, Kutais—Tiflis—Elisavetpol—Shemakha—Baku; also Tiflis—Kars, Akhaltsikh—Batum, and Akhalkalaki—Ardahan—Ardanuch—Artvin—Batum. Batum has no direct main road connection with Poti or Sukhum.

[491] The Rion is navigable for 88 miles from its mouth at Poti; the Kur for 390 miles.

Timber Resources.—The Caucasian area is remarkable for the extent and wealth of its forests, the survival of which has been due as much to the sparsity, and consequently inconsiderable needs of the population, as to inaccessibility and impracticability of transport. In the south-eastern regions much deforestation has taken place, and many of the mountain-sides of Russian Armenia, formerly thickly wooded, are now bare of trees. Similarly, since the Russian conquest, the beech-forests of Chechnia have been greatly thinned. Dense forests of beech, oak and conifers still cover the northern slopes of the Caucasus along the banks of the Kuban and the Terek and their tributaries, while there are extensive forests round Lake Gökcha, east of Elisavetpol, and in Talish.

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But it is along the Black Sea coast, on the south-western slopes of the Caucasus and in Georgia, where the many streams and shelter from the winds of the steppe are favourable to

THE CAUCASUS 1923
showing RAILWAYS and
TEMPORARY FRONTIERS
R U S S I A
BLACK SEA
CASPIAN SEA
T. U R K E Y
P E R S I A
G E O R G I A
A R M E N I A
A Z E R B A I J A N
DAGHESTAN
Sochi
Caggt
Kislovodsk
Mozdok
R. Terek
Kizlyar
Nasran
Grozni
Vladikavkaz
Petrovsk
Temir Khan-Shura
Derbend
Gagri
Pitsunda
Sukhum Kale
Poti
Nikolaevsk
Ozurgeti
Batum
Akhaltsikh
Bogjom
Kutais
Chiatura
Dushet
Gori
Mtzkhet
TIFLIS
Signak
Zakatali
Kuba
Nukha
Elisavetpol
Shemakha
Adji Kabul
Baku
Apsheron Peninsula
Kyurdamir
Mil Steppe
Kara Bagh
Shusha
Jevat
Alyat
Muhan steppe
Aras
Lenkoran
Talish
Akhalkalaki
Alexandropol
Kars
Sarikamish
Erivan
Igdir
Mt. Ararat
Nakhichevan
Julfa
Tabriz
Erzerum
Trebizond
Luzistan
Ardahan
Olti
Merdenik
Baiburt
Zigana
Ardahan
Akvin
Bajom
Borjom
Tkhibuli
Kion R.
Ozurgeti
Nikolaevsk
Poti

491 Derbent, and Makhach-Kala, or Temir-Khan Shura (Buynaksk): and even this road can be sealed off successfully at the narrow point where the city of Derbent ("the closing of the [912] doors") is situated. The Great Caucasus Wall began at Derbent. This wall is a counterpart of the limes romanus in Europe or the Great Chinese Wall, and was built in the 6th century by the Byzantine and Sassanian Empires at their joint, and not insignificant, expense, in order to create an unconquerable defense line against the dangerous nomad tribes of the vast northern plains. At Derbent, the eastern extremity of the wall can still be seen submerged in the Caspian waters; it extended as far west as the Darial Gorge. The western half of the Caucasus was evidently considered to be naturally safe. Surprisingly enough, the communication lines between Trans-Caucasia and the north are still very few in number today, and there exist only two railroad lines, along both coasts, and one major road across the Caucasian range -- the so-called Georgian Army Road from Tiflis to Ordzhonikidze (Vladikaukaz, Dzaudjyqau). The other roads across the Caucasus are not of the same quality as the Georgian Army Road, and are unsuitable for modern heavier traffic. [496] Not a single railroad line has been built across the Great Caucasus, even though as early as the 1870s a number of projects for a railroad crossing the Caucasus between Tiflis and Vladikavkaz were in preparation.

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Railroads

.496 The railroad system of the Caucasus is relatively simple, and will be dealt with here on a minor scale only, particularly since the chapter on economic geography will contain more detailed information as well as a railroad map of the Caucasus.[1]

Until World War II, the Caucasus was connected with the Russian railroad system by two railroad lines only, via Rostov-on-the-Don and Stalingrad. The latter, the Stalingrad line, runs from Stalingrad in a southwesterly direction as a lateral connection between Stalingrad and Novorossiysk, so that it crosses the original and primary connection between the Caucasus and Russia at Tikhoretskaia, only 150 km. due south-southeast of Rostov. During World War II, when the Soviet Union was hard-pressed by the German attack, a third connecting line was hastily built to bring the lend-lease material furnished to the Soviet Union by its Western allies from the Near Eastern bases to the Russian defense lines. This railroad connected the North Caucasian main line with Astrakhan and the Trans-Volga railroad, which was to become the railroad most important to the defense of Stalingrad.

As stated above, no railroad cuts through the Great Caucasus system. The system is circumvented by railroads: on

[1] [cf. cat. 116, p. 220 -- Analyst]

496 the eastern side along the Caspian coast, and in the west along the coast between Colchis and Tuapse. At Tuapse the railroad turns northeastward using the deep incision of the Tuapse and Pshish valleys, and runs through the district of Maikop via Kurgannaia to Armavir, where it meets the North Caucasian main line. The railroad connection between Tuapse and Georgia along the Black Sea coast was not completed until after the war. As a third railroad line of first-rate significance, the Armenian railroad is to be mentioned. It runs from Tiflis southward through the Borchala (or Debet-Chai) valley via Kirovakan (the former Karaklis) to Leninakan, then along the western slopes of the Alagoz in Central Armenia; and further on all through the Araxes valley to the Caspian Depression, where it joins the Trans-Caucasian railroad near the coast of Cape Alyat (Alat).

From the Armenian railroad, two branches project beyond the territory of the Soviet Union. One branch goes into Turkey from Leninakan via Kars, Sarykamysh and Erzurum, at which point it reaches the connection with the Anatolian railroad system. This branch was built by the Russians before the First World War, when the two vilayets of Kars and Ardahan still formed part of the Trans-Caucasian territory. Thus, the railroad up to the former Russo-Turkish frontier at Sarykamysh was a wide-gauge railroad. Neither

• 496 before nor after the First World War was there any through-traffic in operation. The other projection is that in Persian Azerbaidjan, starting at Djulfa on the Araxes, and connecting the Armenian railroad with the city of Tabriz, the capital of Persian Azerbaidjan. But Tabriz is not connected with the Persian railroad system, since between Tabriz and Qazvin (air distance 400 km.) no railroad exists as yet. About 30 km. northwest of Tabriz, at Zainabad, a subsidiary line branches off to the west-southwest, leading to Sharif-Khana, a small port on the northeastern bank of Lake Urmia.

While the Caucasus proper possesses only the bare framework for a railroad system serving the most urgent needs (and we must bear in mind that a considerable proportion of these railroads are only single track), the northwestern plain region and the Kuban area in a larger sense - i.e., the triangle between Stavropol', Rostov, and Novorossiysk - have a density of railroad lines almost equal to that of central Russia around Moscow. This is the area of the recent Russian and Ukrainian agricultural settlers, who have begun to occupy in ever-increasing numbers this portion of the North Caucasian plains. In a similar way, the Stavropol' plateau has a few railroad lines of its own, not, however, organically linked with the entire system, but protruding in a somewhat disconnected, haphazard fashion into the

496 steppes to the north and northeast of Stavropol. These lines must sooner or later be linked with the Kikhoretskaia-Stalingrad line at Salsk, from where there is a connection with Rostov, and perhaps eventually with the connecting link between Astrakhan and Kizlyar.

In the mountains proper, railroad construction meets certain difficulties or even limitation which prevent the extension of the single subsidiary lines of the mountain areas proper. This is particularly evident with regard to the side-lines of the Trans-Caucasian railroad, all along the southern slopes of the Caucasus.

315 The railroad system of the Caucasus, which has proven insufficient to handle with any efficiency the traffic demands made by the industrial centers, is somewhat compensated for by the oil pipelines. There is the double one across Trans-Caucasia, from Baku, via Tiflis and the Surami pass, to Batumi on the Black Sea, and the North Caucasian pipe line which connects the Groznyi and Maikop petroleum areas with the ports of Makhach-kala on the Caspian Sea and Tuapse on the Black Sea, after which it goes via Rostov directly to the Ukrainian heavy industries. These pipelines relieve the demands upon the railroads to a considerable extent.

491 The above-mentioned inadequacy of the railroad system is typical not only of the Caucasus but of the entire Soviet Union. This

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TRANSPORTATION

489 Until the end of the nineteenth century Russia's transportation was based on waterways. Thus, the Russians first reached the Caucasus by way of the Volga and Don Rivers. Political difficulties and the paucity of navigable rivers in the Caucasus proper, however, prevented easy and total Russian colonization. 489 Serious exploitation of the area by the Russians 496 did not start until the first railroad line (the Rostov-Baku line) was built in 1870. Today Caucasian transportation is based on railroads. The Soviet regime, realizing the importance of railroads for industrialization (and Russification) has built over 40,000 miles in the USSR during the last thirty-five years, bringing the present day total mileage to 80,000. In the Caucasus, the Czarist railroads were used to transport raw materials from the Caucasus to the processing centers of Inner Russia, and bring the finished products back to this outlying area. The present-day system takes care of local needs as well as over-all Russian requirements; it connects the capitals of the various sub-areas, links the hinterlands to their respective harbors, secures a strong connection with Moscow, and finally takes into consideration military re- 489 quirements as well. The importance of high- 491 ways in the Caucasian transportation system is small. The mountainous parts of the South Caucasus and the Krasnodar Kray in the North Caucasus have relatively better roads. The old military roads across the Caucasus range are primarily of touristic value. The best is the

489 Georgian Military Road connecting Dzaudzhikau
[491] with Tbilisi. Aviation, on the other hand, is very well developed.

The transportation systems of the various sub-areas are as follows:

489 Azerbaijan SSR: Transportation based
496 on railroads. The chief rail junction is Baku, the terminal of the Baku-Rostov, Baku-Tbilisi, and Baku-Dzhul'fa-Tbilisi lines. The main lines are partially electrified as are the railroads on the Apsheron Peninsula. The main
[304] port is Baku (petroleum-loading). The Kura River is navigable as far as Yevlakh. The air-
[508] fields are concentrated around Baku and Kirovabad. The sub-units are well served by railroads. Stepanakert, the capital of the High-Karabakh AO, is the terminal of a trunk line coming from Yevlakh. Dzhul'fa, in the Nakhichevan' ASSR, is an important junction on the Baku-Tbilisi-Tabriz (Persia) lines.

Armenian SSR: Railroads are the chief means of transportation. Important junctions are Zangibazar (on the Leninakan, Zanga, and Dzhul'fa lines), and Leninakan on the Tbilisi,
[491] Dzhul'fa, Artik, and Kars (Turkey) lines. The highways along the slopes of the Lesser Cauca-
[509] sus are relatively good. Yerevan is the aviation center of the republic.

Georgian SSR: Transportation mostly based on railroads. The main lines are the Baku-Tbilisi-Batumi, and the Tbilisi-Sukhumi-Tuapse lines, with Tbilisi, Khashuri, and Samtredia as the chief junctions. The Georgian railroad system has at the same time a whole

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series of trunk lines, the most important of which are the Mirzaani, Telavi, Stalinir, Bakuriani, Vale, Sachkere, Tkibuli, Tskhaltubo, Poti, and Zugdidi lines. The main port of the republic is Poti. The military roads have primarily historical value. Aviation is centered around Tbilisi. The capitals of the sub-units (Stalinir, Batumi, Sukhumi) have railroad connections, and Batumi is at the same time one of the principal petroleum loading ports of the USSR.

Astrakhan' Oblast: Transportation is based on waterways (the Volga and the Caspian Sea), and more recently on railroads. The principal railroad line is the Saratov-Astrakhan'-Kizlyar line, the Astrakhan'-Kizlyar section of which was recently built. Chief port of the area is Astrakhan' connected by a 125-mile long channel through the shallow waters of the Caspian Sea with Astrakhan' Port. Astrakhan' is above all an oil port; in addition to this it is an important aviation center.

Groznyy Oblast: Transportation based on railroads. The oblast is well served by the two Baku-Rostov main lines (along the Sundzha, and the Terek Rivers), and by the new Kizlyar-Astrakhan' line. The chief junction is Gudermes.

Dagestan ASSR: On the Baku-Rostov line. The center of the railroad system is Makhachkala, the terminal of several spurs. Makhachkala is an important grain, cotton and petroleum port as well, trading mostly with Russian Central Asia, and with Persia. There are also several airfields around the city.

489 496 Stavropol' Kray: Transportation based only on railroads. The chief line is the Baku-Rostov line with spurs penetrating into the steppe and into the Greater Caucasus. Of these trunk lines, which are sometimes electrified, the most important are the Dzaudzhikau, Alagir, Nal'chik, Kislovodsk, Ust'-Dzegutinskaya, Budennovsk, Blagodarnoye, and Divnoye lines. All the capitals of the sub-
[508] units have railroad connections. Airfields are concentrated in the health resort area, around Pyatigorsk.

Krasnodar Kray: Transportation based partially on railroads, partially on coastal shipping. The kray has the most developed railroad system in the Caucasus. The chief lines are the Baku-Rostov, and the Novorossiysk-Stalingrad lines crossing each other at Tikhoretsk. The other important junctions are
[504] Armavir, Krasnodar, and Kropotkin. There is a whole series of good harbors in the area. Tuapse, an oil port, and Novorossiysk, a grain and oil port, are especially important. The harbors on the Sea of Azov are of less impor-
[508] tance. There are several airfields in the area.

Rostov Oblast: Transportation based on waterways (Don; Sea of Azov), and on railroads. The center of the railroad system is Rostov.
[504] Of the ports, Taganrog (coal and grain shipping), and Rostov are the most important.

496 The distribution of the various means of transportation in the entire Caucasus is as follows:

Railroads: The essential means of

496 transportation. The Soviet regime, in addition to the inherited railroad lines (Baku-Rostov, Novorossiysk-Stalingrad, Baku-Batumi, Tbilisi-Dzhul'fa, and Astrakhan'-Saratov lines) has built a whole series of main lines (Prokhladnyy-Astrakhan', Armavir-Samtredia, Dzhul'fa-Alyaty) and a whole net of trunks. Thus, today the Caucasus is well served, except for some northeastern sections.

Water ways: Unimportant in the Caucasus because of the mountainous character of
505 the area. Except for the Kura River in Azerbaijan on which there is some navigation on a small scale, only the Volga and the Don Rivers, which constitute the northern boundaries of the Caucasus, are really navigable rivers. Especially the Volga River is important, being the outlet to Russian Central Asia and Persia. On it lumber is floated downstream and fish, salt, and oil are shipped upstream. The seas around the Caucasus are also important in local coastwise shipping, as well as in long distance coastal shipping and in overseas exports. In coastal shipping the Caspian Sea is especially important, oil shipping between Baku-Makhachkala and Astrakhan' being the largest item. Long distance shipping is characteristic of the Black Sea ports like Sochi, Tuapse, Novorossiysk. The cement of Novorossiysk is shipped for instance as far as Leningrad. The Black Sea, open to navigation throughout the year, handles at the same time 50% of the oversea exports of the USSR. Though Soviet exports were relatively small during the Stalinist period, and though it was

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b.1 Railroads
BAKU = Capital of Political-administrative unit
KAPAN = Terminal

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The Kuban' steppes are among the chief grain-producing regions the USSR. The fertile black earth and sufficient rainfall favor the extensive cultivation of cereals such as wheat, barley, and corn, while of the industrial crops sunflower, cotton, *kenaf*, soy and castor beans are most important. Rice is grown in the swampy delta of the Kuban' River. In the drier eastern portion of the steppes and in the mountainous section of the Northern Caucasus the raising of livestock and allied activities are the main occupations of the rural population.

The industries are concerned primarily with the extraction and refining of petroleum (Groznyy, Makhachkala, and Maykop), the mining of polymetallic ores and molybdenum, and the production of hydroelectric power. In the steppes rural industries process the local products and produce vegetable oils, alcohol, sugar, and starches. Large cement mills at Novorossiysk are notable. Fishing and canning are well developed along the coast. An important role is played by health and tourist resorts, notably Kislovodsk and its satellites in the foothills of the Caucasus and the subtropical resorts of Sochi and Matsesta along the Black Sea littoral.

Two main rail lines serve the steppes of the region. Tikhoretsk is the junction for these two railways coming from Stalingrad and Rostov. The Stalingrad line passes through Krasnodar and on to the Black Sea port of Novorossiysk, while the Rostov trunk railroad runs parallel to the northern foothills of the Greater Caucasus and along the Caspian Sea to Baku. A line branching off at Armavir reaches the Black Sea oil port of Tuapse and continues along the coast past Sochi to the Georgian SSR through a rail link completed during the Second World War. Transportation across the Greater Caucasus range is maintained by three important highways: the Sukhumi military road (Cherkessk-Sukhumi), the Ossetian military road (Alagir-Kutaisi), and the Georgian military road (Dzaudzhikau-Tbilisi).

Rostov Oblast

Capital, Rostov on the Don; Area, 40,300, population, 2,550,000

Rostov Oblast is astride of the lower Don River, within the bend of the river in proximity to the Volga near Stalingrad. The southern section of the oblast is drained mainly by the Sal and the Manych, two left affluents of the Don. According to its relief, the region may be divided into the eastern end of the Donets ridge, the southeastern outliers of the Central Russian upland in the north and the wide Don steppe in the south.

SU 133 C 133 The entire Kray, with the exception of the mountains in the south and the dry steppes in the east, is covered with black earth of the highest grade. The soil conditions and the warm, humid summer climate combine to make the Kuban' region one of the most fertile agricultural regions of the USSR, able to provide a large number of products. In the southwest, along the Black Sea littoral, the subtropical, winterless climate favors the growth of citrus fruits, tea, and similar warm-weather crops. The mountainous portion of the region also presents factors favorable to the development of the economy. The left affluents of the Kuban', the Belaya, the Laba, and the Urup rivers, as well as the upper course of the Kuban' itself are potential sources of hydroelectric power. A rich petroleum-bearing area extends from the Taman' peninsula to the Belaya River along the northern foothills of the Greater Caucasus. Along the Black Sea, southeast of Novorossiysk, extensive marl deposits furnish an important basis for the cement industry. The region also includes the forested slopes of the Caucasus that are covered with oak and chestnut, two valuable types of wood. The Sea of Azov, finally, is rich in fish along the shallow northwest coast of Krasnodar Kray.

SU 162 C 162 The population of the region is predominantly Russian. It includes also large numbers of Ukrainians and Adyge (Cherkess or Circassians), the latter being organized into an autonomous oblast. The Cossacks are concentrated in large villages along the Kuban' River.

SU 496 C 496 The Russian settlement and consequent economic development received their most vigorous impetus from the construction of the Rostov-Baku railroad in the 1870's. During the twenty-five years following the completion of the line the population of the Kuban' district increased twice, and the area under cultivation fivefold. Mechanization was introduced early by the well-to-do peasants, who owned most of the land prior to collectivization. After the adoption of rationalized agriculture, spring wheat and sunflowers were assigned to the dry northern steppes, where the black-earth and chestnut soils suffer from drought in summer and are covered only by a thin snow cover in the winter months. The richest agricultural area lies along the Kuban' River. There, among vast expanses under winter wheat, barley, and corn, large areas are producing garden produce, melons and pumpkins, and fodder crops. The principal old industrial crops are sunflower and tobacco; during recent years cotton, *kenaf*, soy beans, castor beans, and essential-oil-bearing plants were introduced. Rice has been acclimatized in the swampy lowlands bordering on the Kuban', between Krasnodar and the delta. Livestock raising is more intensive here than it is along the Don and in the

SU 241 C 241

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Sal steppes, where because of the dry conditions only sheep and horses can be successfully reared.

The rich agricultural production of the Kuban' lowlands is processed at a number of centers, chiefly Krasnodar, Armavir, Kropotkin, and Labinsk. Of great importance are oil presses, canneries, flour mills, and tobacco factories.

The Black Sea littoral is characterized by a humid, maritime climate, luxuriant natural vegetation, mineral springs, and a picturesque location between the mountains and the sea. These factors combine to make the area provide garden crops and health resorts. Because of the limited land area under cultivation and the presence of resorts (Sochi, Matsesta, and Anapa), the growing of vegetables, fruits, vineyards, and dairy farming receive priority. Tobacco, southern hemp, oil-bearing plants are also cultivated. Flower gardens and decorative plants are common. Wine is made chiefly at Anapa, at Abrau-Dyurso near Novorossiysk, and at Solntsedar [gift of the sun], just west of Gelendzhik. Gelendzhik itself is an important dairying center. Tea is processed at Dagomys, northwest of Sochi.

The Kuban'-Black Sea petroleum region (near Maykop) is centered in Neftegorsk [oil mountain] and Apsheronsk (named for the oil-rich Apsheron peninsula). Near by are the oil towns of Khadyzhenskiy and recently-opened Kutais. Another field has been developed at Il'skiy, southwest of Krasnodar. Prior to the Second World War this region was one of the most rapidly developing petroleum areas of the USSR; it had a tenfold increase in production under the Soviet regime. Destruction caused by the war has, however, been responsible for a considerable setback in output.

The basic transportation routes are the Rostov-Baku and Novorossiysk-Stalingrad railroads, their junction being at Tikhoretsk, a major rail center with extensive yards and shops. Short branch lines serve most sections of the region. During the Second World War the opening of the Black Sea littoral railroad between Adler and Sukhumi (Georgian SSR) established another vital link across the Greater Caucasus to the Transcaucasian republics. Coastal steamers serve the Black Sea shore, stopping at Sochi, Tuapse, and Novorossiysk, the most important ports.

Krasnodar, formerly called Yekaterinodar, lies on the right bank of the Kuban', in the middle of the fertile black-earth agricultural area. Once the capital of the Kuban' Cossacks, it has oil-refining and metalworking industries. It is a major food-processing and rail center, having

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pasture land, including the dry lowland steppe areas (used in the winter) and the mountain meadows (used in the summer). Only one fourth of the total area is under cultivation. The principal crops are garden fruits (apples, pears, apricots, peaches, plums, chestnuts, walnuts, and almonds) and subtropical products such as tea and citrus fruits along the Black Sea coast. Sericulture and viticulture are also important. Transcaucasia is the second most important cotton producer of the USSR; the principal cotton areas are in the dry, gray-soil lowlands of the Aras and the Kura, where the most extensive irrigation systems have been developed. In Abkhazia tobacco is grown, and the flooded lowlands of eastern and southern Transcaucasia are suitable for the cultivation of rice. Grains are subordinated in favor of the more specialized industrial and subtropical crops. Livestock is generally driven over great distances, from the winter pastures in the dry steppes to the mountains, where the Alpine meadows furnish excellent summer fodder. This nomadic type of livestock raising is gradually making way for more intensive, sedentary methods, since the dry steppes are gradually being irrigated, and large areas are coming under fodder crops. Sheep and cattle form the principal herds. Horses are few, and they are replaced partly by water buffaloes (for farm work) and partly by camels, mules, and donkeys (for transportation).

The basic railroads are the Batumi-Baku line, with a large number of branches and spurs, including the coastal railways along the Black and the Caspian seas, and the southern branch, which links Tbilisi and Baku via Dzhul'fa and the Aras valley. The Transcaucasian railway system provides connections with the Turkish rail network at Leninakan, and from Dzhul'fa a line goes south to Tabriz (Iran), with an ultimate extension to Tehran. Most of the lines have been electrified or are in process of electrification. Transportation in the higher sections has to rely on highways, among which the Sukhumi, the Ossetian, and the Georgian military roads across the Greater Caucasus range are most noteworthy. Due to the mountainous character of the river courses, inland navigation is negligible.

Azerbaijan Soviet Socialist Republic

Capital, Baku; area, 33,100, population, 3,100,000

The Azerbaijan (or Azerbaydzhan) SSR lies in the eastern section of Transcaucasia, on the Caspian Sea. It includes the southeastern spurs of the Greater Caucasus, which terminates in the Apsheron peninsula,